

Title (en)  
A MULTI-DEGREE OF FREEDOM SURGICAL INSTRUMENT FOR MINIMALLY INVASIVE SURGERY

Title (de)  
CHIRURGISCHES INSTRUMENT MIT GROSSER ANZAHL AN FREIHEITSGRADEN FÜR MINIMALINVASIVE CHIRURGIE

Title (fr)  
INSTRUMENT CHIRURGICAL À MULTIPLES DEGRÉS DE LIBERTÉ POUR CHIRURGIE MINIMALEMENT INVASIVE

Publication  
**EP 3034028 A1 20160622 (EN)**

Application  
**EP 15191355 A 20151023**

Priority  
• CN 201420805476 U 20141217  
• CN 201410788732 A 20141217

Abstract (en)  
A multi-DOF surgical instrument for minimally invasive surgery which comprising a hand held portion 10, a power portion 20 which is fix connected with the hand held portion 10, a thin linking rod 30 which is fix connected with the power portion 20, an operative end portion 40 which is connected with the thin linking rod 30, and an operative system for controlling the operation of the power portion 20. Wherein, the hand held portion and the power portion are wire connected with the operative system, the operation of the hand held portion triggers operations of encoders on the two joints provided on the instrument. The encoder collects the operation information of the joints and feeds back to the operative system , and the power portion receives signal from the operative system and drive the operative end portion to perform pitch, yaw, clamping motion.

IPC 8 full level  
**A61B 34/00** (2016.01)

CPC (source: EP)  
**A61B 34/71** (2016.02); **A61B 34/74** (2016.02); **A61B 2017/00477** (2013.01)

Citation (search report)  
• [Y] US 2002040217 A1 20020404 - JINNO MAKOTO [JP]  
• [Y] US 2014160015 A1 20140612 - OGAWA RYOHEI [JP], et al  
• [Y] EP 1911408 A1 20080416 - TERUMO CORP [JP], et al  
• [Y] WO 2012127404 A2 20120927 - ECOLE POLYTECH [CH], et al

Cited by  
CN112568999A; CN109925061A; CN113855252A

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
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